

Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1-22. (*canceled*)

23. (*original*) An apparatus for down-converting an electromagnetic signal, comprising:

a first and second capacitor each having a first and second port;

a switching device having a first, second, and third port; and

a first and second impedance device each having a first and second port, wherein the second port of the first capacitor is electrically coupled to the first port of the switching device and the first port of the first impedance device,

the second port of the second capacitor is electrically coupled to the second port of the switching device and the first port of the second impedance device, and

the second port of the first impedance device is electrically coupled to the second port of the second impedance device, and wherein

a switching signal is applied to the third port of the switching device.

24. (*currently amended*) The apparatus of claim 23, wherein

the first capacitor discharges between six percent to fifty percent of the total charge stored therein during a period of time that the switching device is open, and

the second capacitor discharges between six percent to fifty percent of the total charge stored therein during [[a]] the period of time that the switching device is open.

25. *(currently amended)* The apparatus of claim 23, wherein

the first capacitor discharges between six percent to twenty-five percent of the total charge stored therein during a period of time that the switching device is open, and

the second capacitor discharges between six percent to twenty-five percent of the total charge stored therein during [[a]] the period of time that the switching device is open.

26. *(currently amended)* The apparatus of claim 23, wherein

the first capacitor discharges between ten percent to twenty percent of the total charge stored therein during a period of time that the switching device is open, and

the second capacitor discharges between ten percent to twenty percent of the total charge stored therein during [[a]] the period of time that the switching device is open.

27. *(currently amended)* The apparatus of claim 23, wherein

the first capacitor discharges between fifteen percent to twenty-five percent of the total charge stored therein during a period of time that the switching device is open, and

the second capacitor discharges between fifteen percent to twenty-five percent of the total charge stored therein during [[a]] the period of time that the switching device is open.

28. (*original*) The apparatus of claim 23, wherein the first impedance device is an input impedance of a first amplifier and the second impedance device is an input impedance of a second amplifier.

29. (*currently amended*) The apparatus of claim 23, wherein the switching device ~~[[is]]~~ includes a transistor.

30. (*currently amended*) The apparatus of claim 23, wherein the switching device ~~[[is]]~~ includes a FET.

31. (*currently amended*) The apparatus of claim 23, wherein the switching device ~~[[is]]~~ includes a JFET.

32. (*currently amended*) The apparatus of claim 23, wherein the switching device ~~[[is]]~~ includes a MOSFET.

33. (*currently amended*) The apparatus of claim 23, wherein the ~~second~~ first port of the first impedance device is electrically coupled to an input port of a first operational amplifier and the ~~second~~ first port of the second impedance device is electrically coupled to an input port of a second operational amplifier.

34-90. (*canceled*)